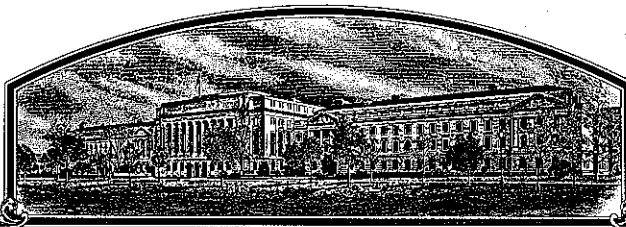


No.

9200004



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Northrup King Co.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'S39-11'



Attest

Rexsath H. Wans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington, D.C.
this 30th day of November in
the year of our Lord one thousand nine
hundred and ninety-two.

Edward Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Northrup King Co.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. X9039 (J516759)		3. VARIETY NAME S 39-11 <i>RWS 2-41-92</i>	
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) P O Box 959 Minneapolis, MN 55440		5. PHONE (include area code) 612-593-7333		FOR OFFICIAL USE ONLY PVPO NUMBER 9200004 F I L I N G Date <i>October 9, 1991</i> Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M. F E E S Filing and Examination Fee: \$ <i>2150.</i> Date <i>October 9, 1991</i> R E C E I V E D Certificate Fee: \$ <i>250.00</i> Date <i>October 29, 1992</i>	
6. GENUS AND SPECIES NAME Glycine max		7. FAMILY NAME (Botanical) Leguminosae			
8. CROP KIND NAME (Common Name) Soybean		9. DATE OF DETERMINATION February 1991			
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation		11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware			
12. DATE OF INCORPORATION 1976		13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Robert W. Romig Northrup King Co. P O Box 959 Minneapolis, MN 55440		PHONE (include area code): 612-593-7305	

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety.

b. ☒ Exhibit B, Novelty Statement.

c. ☒ Exhibit C, Objective Description of Variety.

d. ☐ Exhibit D, Additional Description of Variety.

e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____

g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)
☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____) ☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates) ☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)] <i>Robert W. Romig</i>	CAPACITY OR TITLE Vice-President, Research	DATE 10/7/91
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE

EXHIBIT A

Origin and Breeding History of the Variety

The soybean variety 'S39-11' is derived from the cross 'Fayette' x 'S42-30'. The cross was made in the winter of 1982-83 at the Northrup King Co. Research Center at Waimea, Kauai, Hawaii, by the Northrup King Co. soybean breeding staff at St. Joseph, IL. The F_1 was grown at the Northrup King Co. Research Center at St. Joseph, in 1983; the F_2 and F_3 in the winter of 1983-84; and the F_4 at St. Joseph in 1984. The F_2 and F_3 generations were advanced by harvesting 2-4 seeds from each plant and planting a 600 seed sample of this bulk. In the fall of 1984, approximately 100 random plants were harvested and threshed individually. The progeny from these plants were grown in F_5 progeny rows in 1985. One of these, numbered J516759, was selected based on agronomic appearance to be tested in a preliminary yield trial in 1986. This line was subsequently named S39-11. It has been tested at several midwest U.S. locations from 1987-1990 and found to yield well in comparison to other late Group III and early Group IV cultivars. Descriptive traits including white flowers, tawny pubescence, tan pods, and black hilum have been identified and confirmed. S39-11 has been tested in the field or greenhouse every year since 1986 for resistance to cyst nematode (Heterodera glycines) and found to be resistant to Races 3 and 14 (formerly Race 4). This resistance was verified by U.S.D.A. nematologist, Lawrence Young, at Jackson, TN. In the winter of 1987-88, 300 seeds of S39-11 were planted at Waimea. At harvest, 100 plants were threshed individually and their progeny planted at St. Joseph in 1988 to monitor variety variability and to produce Pedigree Seed. A few off-type plants, assumed to have come from outcrosses or mixtures, were removed. Six rows which appeared slightly later were also removed. All other rows were uniform and were bulked to produce Pedigree Seed. This seed was planted in 1989 to produce Breeder Seed. The increase block was rogued carefully at flowering and prior to harvest.

Foundation Seed of S39-11 was produced in 1990. The Iowa Crop Improvement Association inspected the field and found it to meet the standards for Foundation Seed. The National Soybean Variety Review Board approved the variety for eligibility for Certification on December 24, 1990.

S39-11 is a stable and uniform variety except that it may contain up to 2% seed with hilum color other than black. In five years of testing and three years of seed increase, no variants other than environmental variation normally encountered in any soybean variety have been observed.

Varietal purity will be maintained by use of progeny rows as needed.

EXHIBIT B

Novelty Statement for the Variety

Soybean variety S39-11 is most similar to S43-34 and Fayette. It can be differentiated from S43-34 on the basis of pubescence color and hilum color. S39-11 has tawny pubescence and seeds with black hila while S43-34 has grey pubescence and seeds with buff hila. S39-11 can be differentiated from Fayette on the basis of seed coat luster and plant height. Seeds of S39-11 have dull seed coats while seeds of Fayette have shiny seed coats. S39-11 also grows shorter than Fayette. In 9 trials over 3 years, S39-11 averaged 94 cm in height vs 100 cm for Fayette with an LSD of 5 cm, 95% probability level.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION
 PLANT VARIETY PROTECTION OFFICE
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Northrup King Co.	TEMPORARY DESIGNATION X9039, J516759	VARIETY NAME S39-11
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) P. O. Box 959 Minneapolis, MN 55440 Attention: R. W. Romig		FOR OFFICIAL USE ONLY PVPO NUMBER 9200004

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,).

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = ≤ 1.2)
 3 = Elongate (L/T ratio > 1.2 ; T/W = ≤ 1.2)

2 = Spherical Flattened (L/W ratio > 1.2 ; L/T ratio = ≤ 1.2)
 4 = Elongate Flattened (L/T ratio > 1.2 ; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a)2 = Type B (SP1^b)

9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

☒ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☒ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

13. FLOWER COLOR:

☒ 1

1 = White

2 = Purple

3 = White with purple throat

14. POD COLOR:

☒ 1

1 = Tan

2 = Brown

3 = Black

15. PLANT PUBESCENCE COLOR:

☒ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☒ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

17. PLANT HABIT:

☒ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

☒ 61 = 000
9 = VI2 = 00
10 = VII3 = 0
11 = VIII4 = I
12 = IX5 = II
13 = X

6 = III

7 = IV

8 = V

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

☒ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)☒ 1Bacterial Blight (*Pseudomonas glycinea*)☐Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

☒ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)☐

Race 1

☐

Race 2

☐

Race 3

☐

Race 4

☐

Race 5

☒ 2Other (Specify)
Prevalent Arkansas Races☐Target Spot (*Corynespora cassiicola*)☐Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☒Powdery Mildew (*Microsphaera diffusa*)☐Brown Stem Rot (*Cephalosporium gregatum*)☐Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

5

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ☒ Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☒ Purple Seed Stain (*Cercospora kikuchii*)
- ☐ Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ☒ Race 1 ☒ Race 2 ☒ Race 3 ☒ Race 4 ☒ Race 5 ☒ Race 6 ☒ Race 7
- ☒ Race 8 ☒ Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☐ Bud Blight (Tobacco Ringspot Virus)
- ☐ Yellow Mosaic (Bean Yellow Mosaic Virus)
- ☐ Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ Pod Mottle (Bean Pod Mottle Virus)
- ☐ Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ☐ Race 1 ☐ Race 2 ☒ Race 3 ☐ Race 4 ☒ Other (Specify) Race 14 (Formerly 4)
- ☐ Lance Nematode (*Hoplolaimus Colombus*)
- ☐ Southern Root Knot Nematode (*Meloidogyne incognita*)
- ☐ Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☒ Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	S43-34	Seed Coat Luster	S42-30
Leaf Shape	Fayette	Seed Size	S43-34
Leaf Color	S42-30	Seed Shape	S42-30
Leaf Size	S42-50	Seedling Pigmentation	Fayette

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	137	2.3	94	6.8	10.6	41.9	19.9	15.1	
Fayette Name of Similar Variety	137	2.5	100	6.9	10.9	42.4	20.4	14.5	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.J. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

EXHIBIT E

Statement of the Basis of Applicant's Ownership

Soybean variety S39-11 was developed by the Northrup King Co. soybean breeding staff from germplasm sources cited in Exhibit A of this application. Northrup King Co. believes that the variety is novel as defined in the Plant Variety Protection Act and, therefore, that Northrup King Co. is the sole owner of the variety.